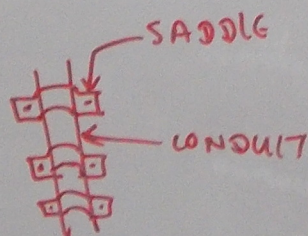
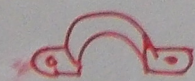


ELOS SECTION (3) METAL FIXINGS

- ACCESSORIES (SADDLE, CLIP, CONDUIT, BRACKET SWITCHES)
- TECHNIQUES FOR FIXING TO METAL
- FIXING DEVICES (COACH BOLT, TAPPER, METAL THREAD BOLT, WALL ANCHOR)
- FIXING TOOLS (SPANNER, SCREW DRIVER, RIVETERS FILES, REAMER)
- O H & S ISSUES (DRILLING, CUTTING, EYE PROTECTION METAL FILING, NOISE)
- USING POWER DRILLS, DRILL BIT, DRILL SPEED
- INSTALL FIXING DEVICE, ACCESSORY SUPPORTING UP TO 20kg

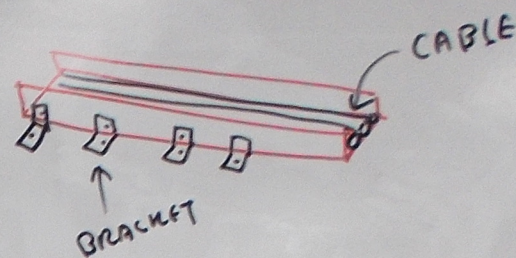
SADDLES



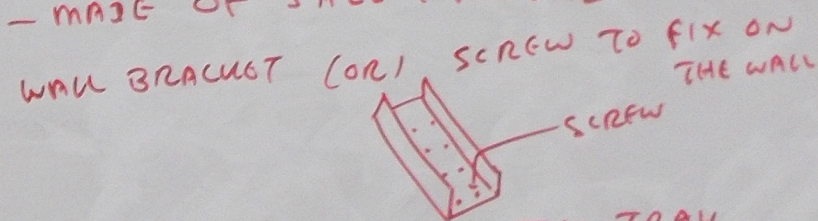
DRILLING THE WALL

- CONDUIT SADDLE, (SCREW), TOOL-SCREW DRIVER TO SUPPORT THE CONDUIT.

CABLE TRAY



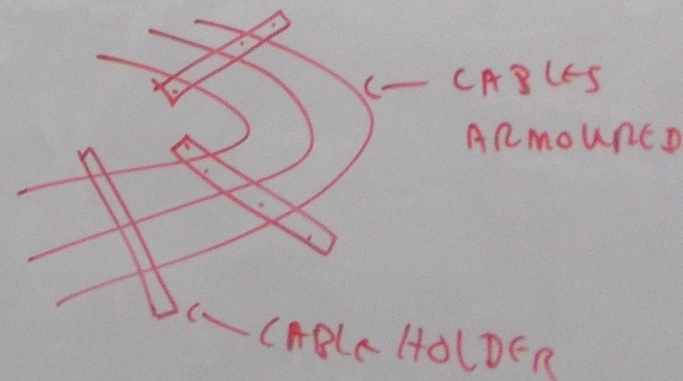
- TO SUPPORT THE CABLES ON THE WALL
- MADE OF SHEET METAL



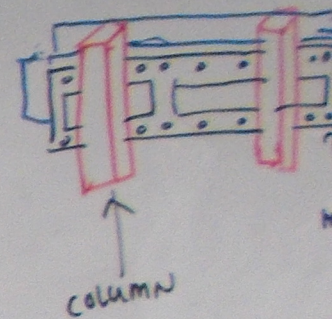
TIGHT THE CABLES IN THE TRAY

CUT THE SHEET METAL BY GILLOTING MACHINE USE THE FOLDING MACHINE TO FORM THE SHAPE

- DRILL THE SHEET METAL TRAY FOR FIXING
- MARK THE HOLES OF SHEET METAL AND THE SAME ON THE WALL TO BE DRILLED



- SELECT THE APPROPRIATE CABLE TRAY AND MOUNTING DEVICE TO SUPPORT THE CABLE WEIGHT.



TECHNIQUES AND THE METAL

ONCE THE LOAD BEEN CHOSEN, TO FASTEN TO ON THE WEIGHT

LIGHT WEIGHT

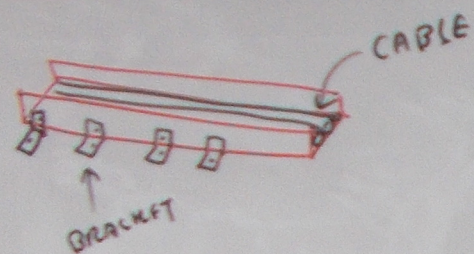
- THIN METAL
- UPTO 2mm CAN BE USED
- MAKE PILE
- PENETRATION
- CUT THEIR MATERIAL



LARGER

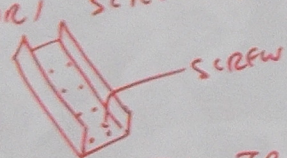
ONCE THE INCREASE STARTS TO SHOULD LOADS TO

CABLE TRAY



- TO SUPPORT THE CABLES ON THE WALL
- MADE OF SHEET METAL

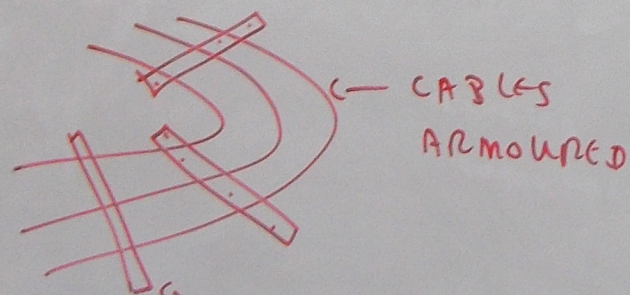
WALL BRACKET (OR) SCREW TO FIX ON THE WALL



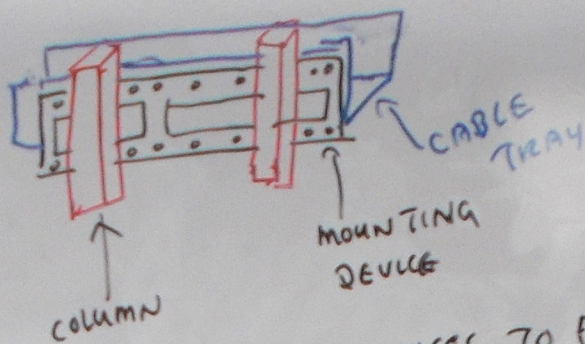
TIGHT THE CABLES IN THE TRAY

CUT THE SHEET METAL BY GILLOTING MACHINE
USE THE FOLDING MACHINE TO FORM THE SHAPE

- DRILL THE SHEET METAL TRAY FOR FIXING
- MARK THE HOLES OF SHEET METAL AND THE SAME ON THE WALL TO BE DRILLED



- SELECT THE APPROPRIATE CABLE TRAY AND MOUNTING DEVICE TO SUPPORT THE CABLE WEIGHT.

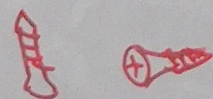


TECHNIQUES AND DEVICES TO FIX THE METAL

ONCE THE LOAD AND ACCESSORIES HAS BEEN CHOSEN, THE METHOD OF HOW TO FASTEN TO THE SURFACE WILL DEPEND ON THE WEIGHT.

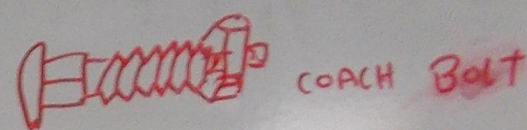
LIGHT WEIGHT DEVICES

- THIN METAL SURFACE
- UP TO 2mm SELF TAPPING SCREW CAN BE USED
- MAKE PILOT HOLE
- PENETRATE THE SCREW
- CUT THEIR OWN THREAD INTO MATERIAL



LARGER DEVICES

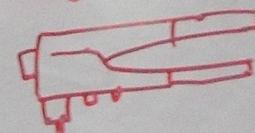
ONCE THE WEIGHT START TO INCREASE AND MATERIAL THICKNESS STARTS TO LARGER, COACH BOLT SHOULD BE USED TO HOLD LARGER LOADS TO SURFACE.



COACH BOLT

HAND TOOLS

SCREW DRIVER, OPENED ENDED SPANNER, RING SPANNER, ADJUSTABLE SPANNER, POP RIVET GUN

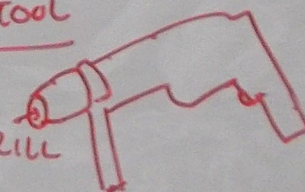


SAFETY

GOOGLE, EAR PLUG, GLOVE
↓
TO PROTECT THE GRINDER NOISE

POWER TOOL

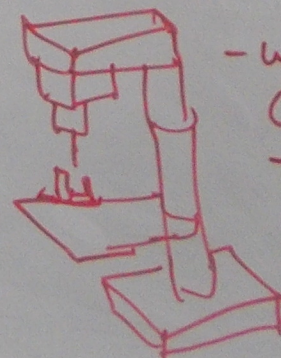
HAND DRILL
CORDLESS DRILL



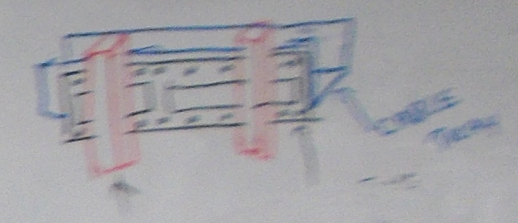
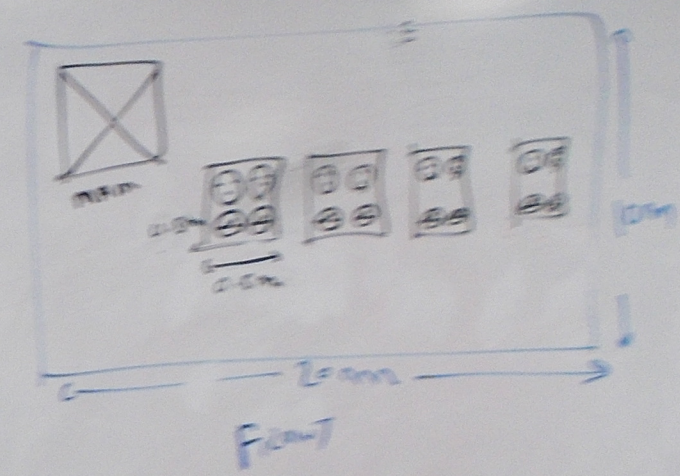
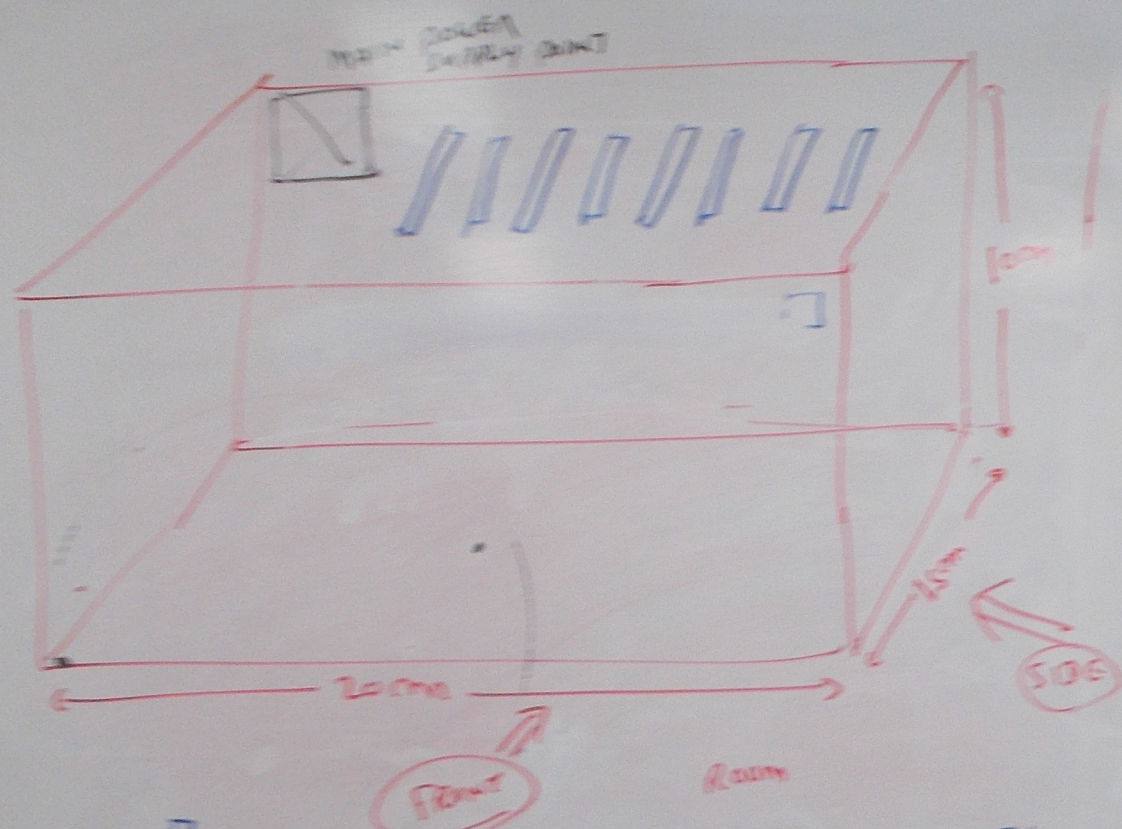
- UP TO 12mm CHUCK
- ADJUSTABLE SPEED

PEDSTAL DRILL

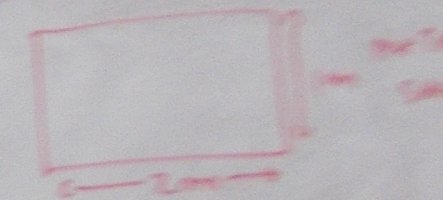
- TO DRILL MORE ACCURATE HOLES
- MATERIAL IS CLAMPED TO THE DRILL FOR SUPPORT



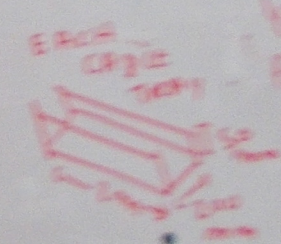
- WASTE MATERIAL (SWARF) TO SAFELY REMOVE THEM



You need provide with



You need to cut the cable from the cable tray. Fix on to the wall.

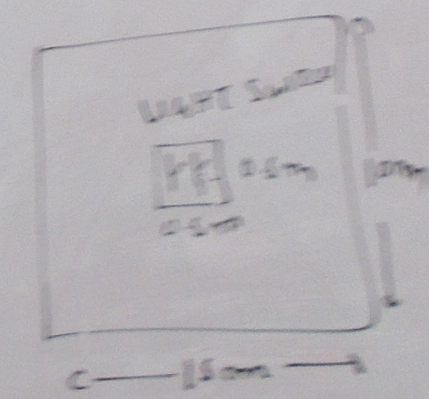
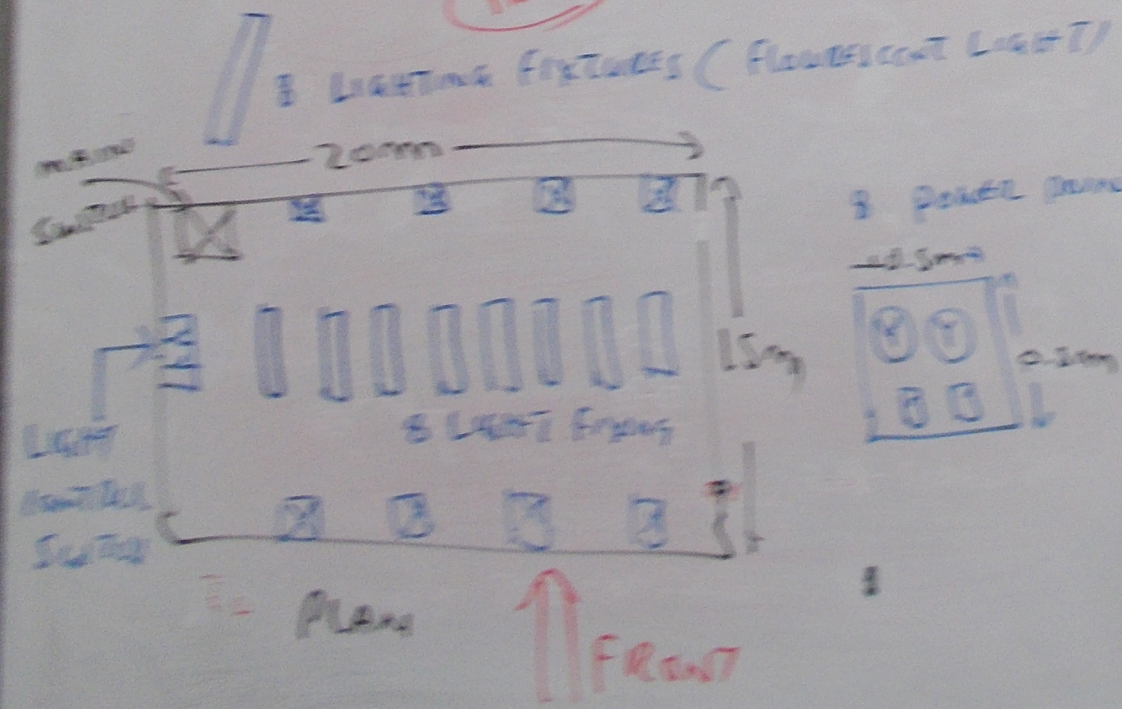


You need to 3. (1) Drawing how to fix appropriate cable

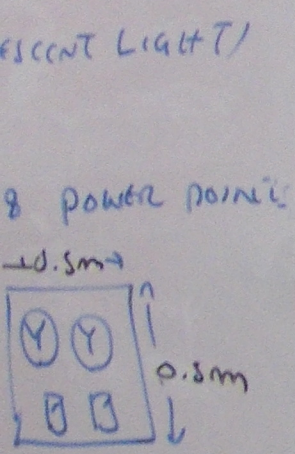
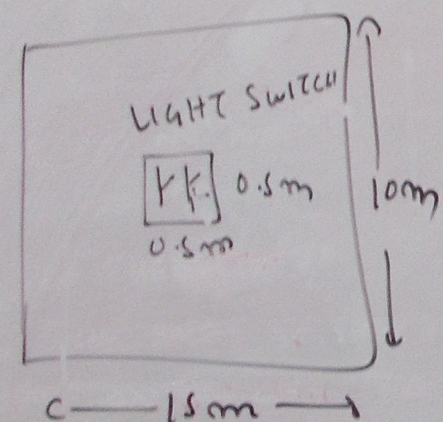
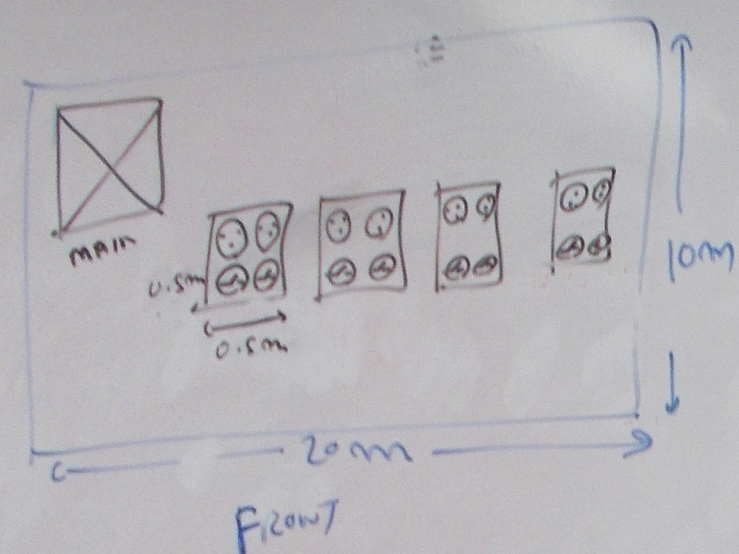
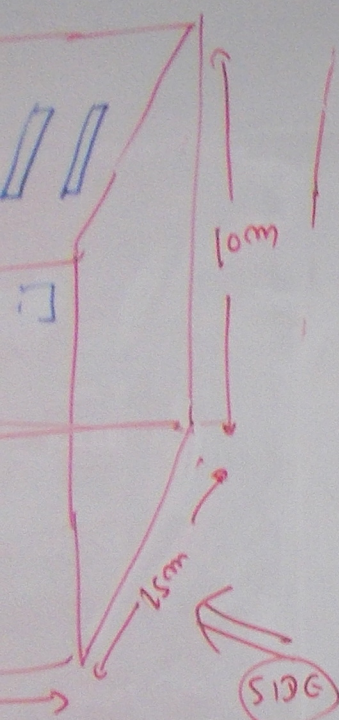
(2) where placing, cut the sheet and how to fix

(3) Estimate the metal work

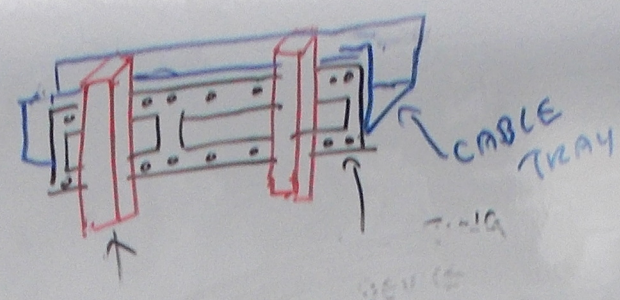
(4) work provide to fix on to



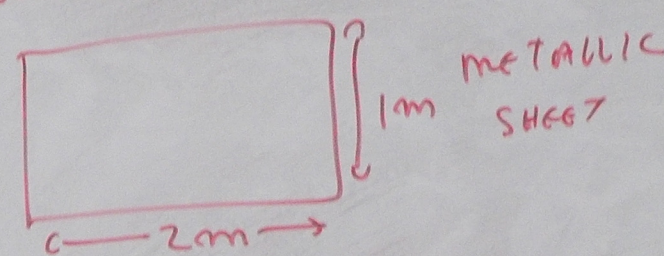
WALL IS MADE OF BRICK
- IT NEEDS TO INSTALL THE CABLE TRAY TO CARRY THE CABLE ON WALL
- IT NEEDS TO APPROX TO HANG THE LIGHTING FIXTURES AT CEILING



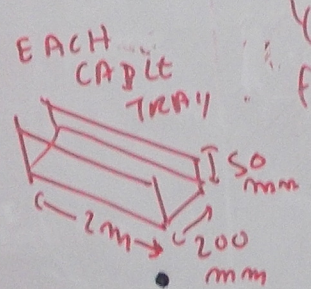
- WALL IS MADE OF BRICK
- IT NEEDS TO INSTALL THE CABLE TRAY TO CARRY THE CABLE ON WALL
 - IT NEEDS TO ANCHOR TO HANG THE LIGHTING FIXTURES AT CEILING



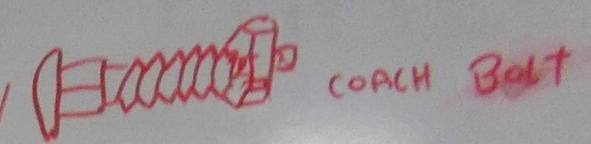
YOU ARE PROVIDE WITH



YOU NEED TO CUT THE SHEET, FORM THE CABLE TRAY AND FIX ON TO THE WALL

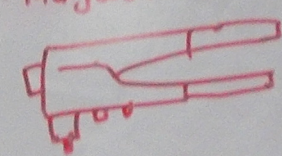


- YOU NEED TO DO
- (1) DRAWING, HOW TO FORM THE APPROPRIATE CABLE TRAY SIZE
 - (2) WORK PROCESS, HOW TO CUT THE SHEET METAL AND HOW TO JOIN
 - (3) ESTIMATE THE SHEET METAL NUMBERS
 - (4) WORK PROCESS HOW TO FIX ON WALL



HAND TOOLS

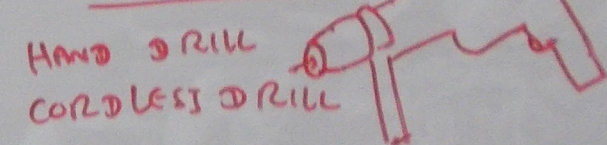
- SCREW DRIVER, OPENED END SPANNER, RING SPANNER, ADJUSTABLE SPANNER, POP RIVET GUN



SAFETY

- GOGGLE, EAR PLUG, GLOVE
- TO PROTECT THE GRINDER NOISE

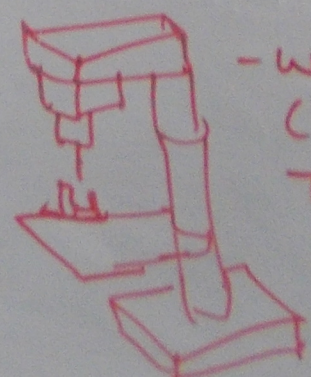
POWER TOOL



- UP TO 12mm CHUCK
- ADJUSTABLE SPEED

PEDSTAL DRILL

- TO DRILL MORE ACCURATE HOLES
- MATERIAL IS CLAMPED TO THE DRILL FOR SUPPORT



- WASTE MATERIAL (SWARF) TO SAFELY REMOVE THEM

SECTION (4) ADHESIVES AND TAPES

- LOAD LIMIT NEEDS TO BE ASSESSED.
- SUITABLE ACCESSORIES THAT CAN BE FIXED WITH ADHESIVE AND TAPE.
- HAZARDS AND SAFETY TO USE CHEMICAL FIXING DEVICES (FUMES, CUTTING, EYE PROTECTIONS, PHYSICAL CONTACT, HAND PROTECTION)
- TECHNIQUES FOR FIXING ADHESIVES AND TAPES.

TAPES

- COMMON USE IN HOMES
- NOT SUITABLE TO FIX THE HEAVY ITEMS TO SURFACE.
- DUE TO STRESS, ITEM WILL SEPARATE FROM THE SURFACE.

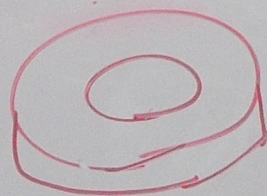
SUITABLE PLACES

- LABELS AND NAME PLATE TO SWITCH BOARD FIXING.
- PVC DUCT WITH DOUBLE SIDED TAPE ON REAR SIDE.

THE SIZE OF DUCT SHOULD BE SMALL SIZE AND ONLY HAVE ONE OR TWO CABLES INSIDE AS THE WEIGHT OF THESE CABLES OVER TIME MAY CAUSE THE TAPE TO GIVE WAY AND THE DUCT TO PART FROM THE SURFACE.

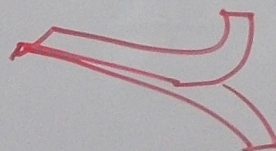
TYPES OF ADHESIVES AND TAPES USED

DOUBLE SIDED TAPE

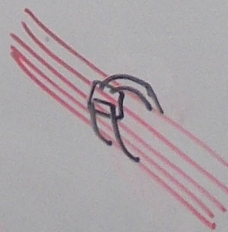


- USED FOR LIGHT WEIGHT FIXING
- (PROLONG TIME WILL CAUSE THE TAPE TO LET GO FROM THE SURFACE)

HOOK AND LOOP STYLE



- USED TO SECURE THE POSITION WHERE THEY NEED TO BE RELOCATED OFTEN AND QUICKLY
- PATCH LEAD IN COMMUNICATION PANEL



GLUE AND SOLVENTS

- PVC CONDUIT CEMENT
- TO JOIN THE CONDUITS TOGETHER AND PREVENT THEM FROM SEPARATING.



- MAINTAIN ELECTRICAL AND PROTECT DAMAGE)

ACCESSORIES USING A...

DOUBLE SIDE USED ONLY LIGHT WEIGHT SMALL P ADHESIVE

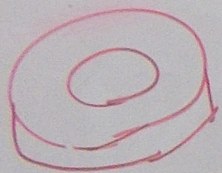
- PVC CON AT TIME IS INSTALL

THAT A AS NOT T CABLE, USED O TOGETHE

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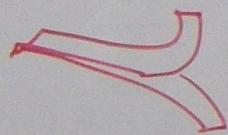
TYPES OF ADHESIVES AND TAPES USED

DOUBLE SIDED TAPE



- USED FOR LIGHT WEIGHT FIXING
- (PROLONG TIME WILL CAUSE THE TAPE TO LET GO FROM THE SURFACE)

HOOK AND LOOP STYLE



- USED TO SECURE THE POSITION WHERE THEY NEED TO BE RELOCATED OFTEN AND QUICKLY
- PATCH LEAD IN COMMUNICATION PANEL



GLUE AND SOLVENTS

- PVC CONDUIT CEMENT
- TO JOIN THE CONDUITS TOGETHER AND PREVENT THEM FROM SEPARATING.



- THIS PREVENTS INGRESS OF UNWANTED ITEMS SUCH AS WATER AND DIRTS THAT CAN DAMAGE THE CABLES.
- MAINTAIN THE INTEGRITY OF ELECTRICAL SYSTEM (INSULATION AND PROTECTION FROM MECHANICAL DAMAGE)

ACCESSORIES WHICH CAN BE FIXED USING ADHESIVES AND TAPES

DOUBLE SIDED TAPES SHOULD BE USED ONLY ON ITEMS WHICH ARE LIGHT WEIGHT SUCH AS LABELS SMALL PVC DUCT AND SELF ADHESIVE CABLE TIE MOUNTS.

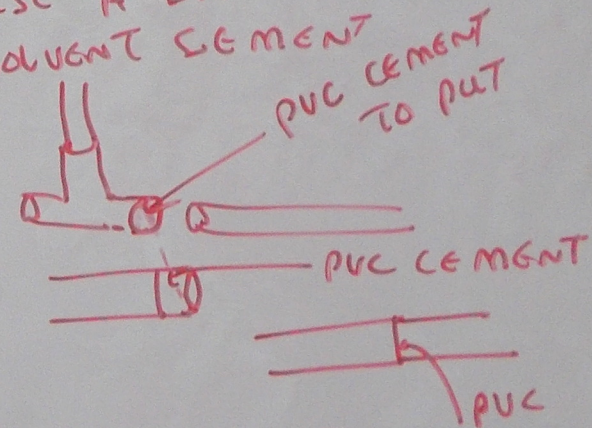
- PVC CONDUIT ← USE PVC CEMENTS.

AT TIME WHEN PVC CONDUIT IS INSTALLED, IT IS REQUIREMENT THAT ALL JOINTS ARE SECURED AS NOT TO SEPARATE AND EXPOSED CABLE, SO PVC CEMENT IS USED ON THE JOINTS TO FIX THEM TOGETHER.

- PVC CEMENT - SOLVENT CHEMICAL WHEN CONTACT IS MADE WITH ANOTHER PVC, THE AIR IS REMOVED AND THE BOND IS MADE THAT IS A CHEMICAL MIX BETWEEN TWO SURFACES

TECHNIQUES

- SURFACE MUST BE CLEAN (NO PAINTS, NO DUST, NO RUST NO LOOSE MATERIALS, NO OIL NO RESIDUES)
- USE A LITTLE STRONGER SOLVENT CEMENT



- SOLVENT CEMENT MUST BE APPLIED TO ONE SURFACE AND COMPLETELY AROUND THE CIRCUMFERENCE OF THE CONDUIT.
- TWO PIECES OF CONDUITS ARE PUSHED TOGETHER AND HELD IN POSITION UNTIL THE CONDUIT DRY. CEMENT TO BE SET IN A FEW SECONDS

CHEMICAL HAZARDS

PERSON PROTECTIVE EQUIPMENT MUST BE USED

CHEMICAL CAN ENTER THE BODY

INHALATION AIR, FUME LEAVE THE
CHEMICAL, MIX WITH AIR AND CAN
ENTER THE BODY THROUGH THE LUNGS.
AND DIRECT INTO BLOOD STREAM

INGESTION

CHEMICAL → HAND → FOOD → MOUTH

ABSORPTION / SKIN CUT

ABSORPTION THROUGH THE SKIN IS DUE TO
CONTACT IF THE SKIN IS BROKEN DUE TO
CUT, IT GIVES THE CHEMICAL A DIRECT
PATH TO BLOOD SUPPLY.

— BEFORE HANDLING THE CHEMICAL,
MSD (MATERIAL SAFETY DATA SHEET)
MUST BE REFERRED AND USE APPROPRIATE
GLOVE, NOSE PROTECTION, APRON, EYE PROTECTION

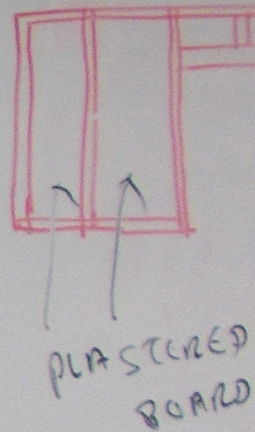
TUTORIAL

Q1 DRAW A STUD WALL INCLUDE
TOP PLATE, NOGGING, STUD
BRACE, BOTTOM PLATE AND
PLASTERED BOARD

Q2 WHICH IS THE STRONGEST
PLASTER BOARD ANCHOR?

Q3 WHAT TYPE OF THREADED
FASTENER SHOULD BE USED FOR
PLASTER BOARD?

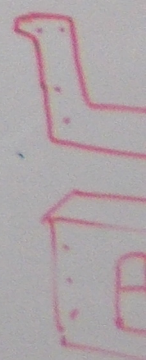
Q4 WHAT TWO DEVICES CAN
BE USED TO MOUNT A SWITCH
PLATE TO PLASTER BOARD?



Q2 Hollow

Q3 SELF

Q4 PLAST
SCR



TUTORIAL

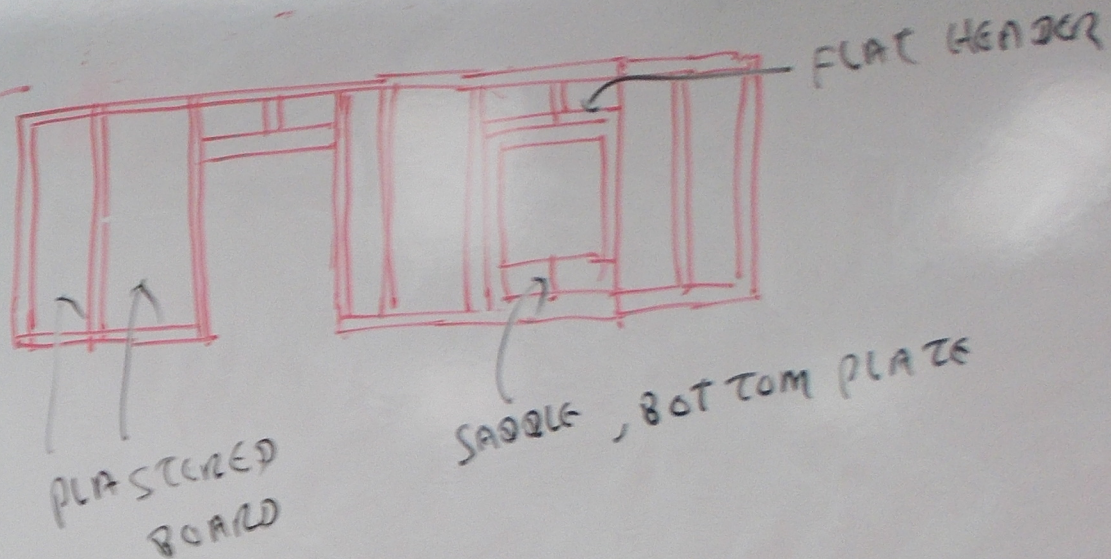
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BE USED TO MOUNT A SWITCH
PLATE TO PLASTER BOARD?

Q1



Q2 HOLLOW WALL ANCHOR

Q3 SELF DRILLING SCREW

Q4 PLASTER CLIP BRACKET
SCREW

